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PTO/SB/64 (05-03)

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED
UNINTENTIONALLY UNDER 37 CFR 1.137(b)**

Docket Number (Optional)
AVERP2952US

First named inventor: Guang-Xue Wei

Application No.: 09/710,510

Art Unit: 1711

Filed: 11/09/00

Examiner: Duc Truong

Title: FLUORESCENT POLYMERIC ARTICLES FABRICATED FROM U.V. LIGHT.
ABSORBING POLYMER

Attention: Office of Petitions

Mail Stop Petition

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

FAX: (703) 308-6916

NOTE: If information or assistance is needed in completing this form, please contact Petitions
Information at (703) 305-9282.

The above-identified application became abandoned for failure to file a timely and proper reply to a
notice or action by the United States Patent and Trademark Office. The date of abandonment is the day after the
expiration date of the period set for reply in the Office notice or action plus an extensions of time
actually obtained.

APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION

NOTE: A grantable petition requires the following items:

- (1) Petition fee;
- (2) Reply and/or issue fee;
- (3) Terminal disclaimer with disclaimer fee --required for all utility and plant applications
filed before June 8, 1995; and for all design applications; and
- (4) Statement that the entire delay was unintentional.

1. Petition fee

☐ Small entity-fee \$ _____ (37 CFR 1.17(m)). Applicant claims small entity status. See 37 CFR 1.27.

☒ Other than small entity - fee \$ 1500.00 (37 CFR 1.17(m))

2. Reply and/or fee

A. The reply and/or fee to the above-noted Office action in
the form of Corrected Response to Office Action (identify type of reply):

☐ has been filed previously on _____

☒ is enclosed herewith.

02/03/2005 MAILED 1 00000029 09710510

B. The issue fee of \$ _____

01 FC:1453

1500.00 0P

☐ has been paid previously on _____

☐ is enclosed herewith.

[Page 1 of 2]

This collection of information is required by 37 CFR 1.137. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

BEST AVAILABLE COPY

3. Terminal disclaimer with disclaimer fee

- ☒ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.
- ☐ A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of \$ _____ for a small entity or \$ _____ for other than a small entity) disclaiming the required period of time is enclosed herewith (see PTO/SB/63).

4. STATEMENT: The entire delay in filing the required reply from the due date for the required reply until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional. [NOTE. The United States Patent and Trademark Office may require additional information if there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137(b) was unintentional (MPEP 711.03(c), subsections (III)(C) and (D))].

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

26 Jan. 2005
Date

Thomas W. Adams
Signature

Telephone
Number: 216-621-1113

Thomas W. Adams

Typed or printed name

Renner, Otto, Boisselle & Sklar, LLP

Address
1621 Euclid Avenue, Nineteenth Floor
Cleveland, Ohio 44115

Address

Enclosures: ☒ Fee Payment

☒ Reply

☒ Terminal Disclaimer Form - *PREVIOUSLY FILED IN ORIGINAL REPLY*

☒ Additional sheets containing statements establishing unintentional delay *LETTER*

☒ Other: Copy of Originally filed Erroneous Reply

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

☒ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: **Mail Stop Petition**, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

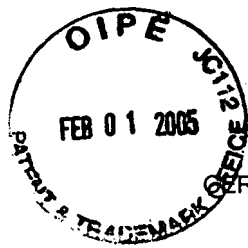
☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) 308-6916.

01/26/05
Date

Janet Farr
Signature

Janet Farr

Type or printed name of person signing certificate



CERTIFICATE OF MAILING (37 CFR 1.8(a))

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Date: January 26, 2005

Janet FARR
(Type or print name of person mailing paper)
Janet Farr
(Signature of person mailing paper)

Docket No. AVERP2952US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: :
Guang-Xue Wei et al. : Group Art Unit: 1711
Serial No: 09/710,510 : Examiner: Duc Truong
Filed: November 9, 2000 : Confirmation No. 5131
For: **FLUORESCENT POLYMERIC ARTICLES FABRICATED
FROM U.V. LIGHT ABSORBING POLYMER**

LETTER

M/S PETITION
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

The present paper is filed together with Applicants' Petition for Revival of an Application for Patent Abandoned Unintentionally Under 37 CFR 1.137(b), in the above patent application. This paper presents additional information relating to the unintentional abandonment and to the paper which was actually filed in response to an Office action but was incorrectly identified.

Applicants submit herewith Applicants' Petition for Revival of an Application for Patent Abandoned Unintentionally Under 37 CFR 1.137(b), a complete, un-corrected copy of the originally-filed response to Office Action (which was filed on February 21, 2003 but was mis-identified by Applicants' previous attorney), a copy of the postcard receipt showing receipt by the Office of the response to Office Action, a Terminal Disclaimer and a check in the amount of \$110.00 for payment of the Terminal Disclaimer fee.

In addition, Applicants submit herewith a CORRECTED copy of the originally-filed response to Office Action, a CORRECTED copy of the Declaration and a CORRECTED copy of the Terminal Disclaimer, in each of which in which the serial number ONLY has been changed. These CORRECTED copies of the originally filed papers have been changed only to correctly show the serial number of the present application, but otherwise are exactly the same papers filed on February 21, 2003.

As stated in the accompanying PTO for PTO/SB/64, Applicants re-iterate that the entire delay in filing the required reply was unintentional.

The required reply was actually filed by Applicants' previous attorney, as shown by the postcard receipt, on February 21, 2003. However, as clearly shown in the original paper, the serial number shown on all of the papers filed that day, i.e., the Reply to Office Action, the Terminal Disclaimer, and the postcard receipt, was erroneous, having been shown as "09/710,560" on those papers. The serial number erroneously shown on those papers (09/710,560) actually belonged to another commonly-assigned application that was originally filed on the same day as the present application (09/710,510). The similarity in the serial numbers obviously contributed to the error.

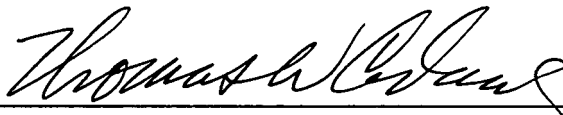
Included with the originally filed papers (and with the present paper) was Applicants' Terminal Disclaimer and payment of the fee required under 37 CFR 1.20(d). Therefore, since the fee was paid previously, the fee for the Terminal Disclaimer is not included with this paper. The only fee included with this paper is the fee for revival of an application for patent unintentionally abandoned. A new Terminal Disclaimer is filed herewith, signed by Applicants new attorney, since the power of attorney to the previous attorney was revoked.

In the event issues arise as a result of the filing of this paper, or remain in the prosecution of this application, Applicants request that the Office telephone the undersigned attorney to expedite consideration of the present petition and eventual allowance of the application. Should any additional fees be required for the filing of this paper, the Commissioner is authorized to charge those fees to Deposit Account #18-0988, Docket No. AVERP2952US. In particular, if the Terminal Disclaimer fee must be paid again at this time, the Commissioner is authorized to charge this fee to the above-identified deposit account.

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP

26 January 2005

By 
Thomas W. Adams, Reg. No. 35,047

1621 Euclid Avenue
Nineteenth Floor
Cleveland, Ohio 44115
(216) 621-1113

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013013-026-157

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

WEI, Guang-Xue et al.

Serial No.: ~~09/710,560~~ 09/710,510

Filed: November 9, 2000

For: FLUORESCENT POLYMER
ARTICLES FABRICATED FROM U.V.
LIGHT ABSORBING POLYMER

Confirmation No.: 5131

) Examiner: Duc Truong

) Art Unit: 1711

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) I hereby certify that this correspond-
) ence is being deposited with the U. S.
) Postal Service as first class mail in an
) envelope addressed to: Commissioner of
) Patents and Trademarks, Washington,
) D.C. 20231, on Feb. 21, 2003

) Paulette Hasetter
) PAULETTE HASETTER

**CORRECTED
RESPONSE TO OFFICE ACTION**

Honorable Commissioner of
Patents and Trademarks
Box Non-Fee Amendment
Washington, D.C. 20231

Dear Sir:

This is in response to the Office Action mailed December 4, 2002. In that action, the Examiner rejected pending claims 1-33 for obviousness-type double patenting in view of co-pending application no. 09/710,560, which has since issued as U.S. 6,514,594 B1. Specifically, the Examiner stated

"Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference between [the] two applications are the fluorescent dye and the polymeric resin matrix of the instant claims are not in the fluorescent polymeric layer and the ultraviolet screening layer, as in the claims of the reference."

The '594 patent relates to a structure wherein a U.V. light screening layer, comprising a polymer having in its backbone repeating units of a U.V. light absorbing moiety, or a moiety

capable of being transformed by Photo-Fries rearrangement into a U.V. light absorbing moiety, is disposed in operative screening relation to a layer containing a fluorescent colorant. By contrast, the instant invention relates to a structure comprising a polymeric resin matrix, the matrix comprising a polymer as described above and a fluorescent colorant. As discussed in the prosecution of the '594 patent, fluorescent colorants are extremely photosensitive, and the behavior of different fluorescent colorants in different polymer matrices is inherently unpredictable. In particular, one cannot predict the color durability of different fluorescent colorants in different polymer matrices (see, "Declaration of Drew J. Buoni Under 37 CFR 1.132," ¶ 3, submitted in connection with prior 09/710,560, a copy of which is submitted herewith for the Examiner's reference). As such, it could not have been predicted that the fluorescent colorants in the claimed polymer matrix would have had superior weatherability, as set forth in the examples at page 28-32 of the instant application.

The Examiner's reference to claims 26 and 27 of the instant application is respectfully not understood. Claim 26 describes an embodiment wherein microprismatic cube corners are on a surface of the claimed polymer matrix layer. Claim 27 describes an embodiment wherein microprismatic cube corners are on a surface of a second light transmissible layer. It would not have been obvious from these claims to have the fluorescent colorant in a layer separate from the layer containing the claimed polymer, as claimed in the reference. As to the showing of unexpected results, the Examiner is once again referred to the data in the examples at pages 28-32 of the instant specification.

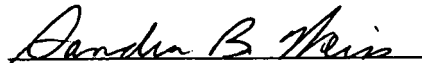
Nevertheless, without agreeing with the grounds of the rejection, but merely to expedite the prosecution of this application, applicant submits herewith a Terminal Disclaimer to Obviate a Double Patenting Rejection Over a Prior Patent. Since the instant application and the

application for U.S. 6,514,594 were filed on the same day, they will expire on the same day, and the filing of this Terminal Disclaimer will have no adverse effect on the actual term of any patent that will issue hereon.

In view of the foregoing, a Notice of Allowance is respectfully requested.

Submitted herewith is a check in the amount of \$110.00 to cover the fee for filing the Terminal Disclaimer under 37 C.F.R. 1.20(d).

Respectfully submitted,



Sandra B. Weiss

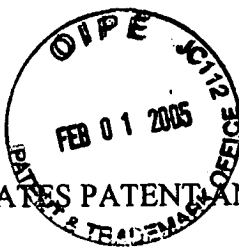
Reg. No. 30,814

JONES DAY

77 West Wacker

Chicago, Illinois 60601-1692

312/782-3939



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

WEI ET AL.

Serial No.: ~~09/710,560~~ 09/710,510

Filed: November 9, 2000

For: FLUORESCENT POLYMERIC
ARTICLES HAVING SCREENING
LAYER FORMED FROM U.V. LIGHT
ABSORBING POLYMER

Examiner: Duc Truong
Art Unit: 1711

I hereby certify that this correspondence is being deposited with the U. S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on October 22, 2002

Paulette K. Haseltine
PAULETTE K. HASELTINE

CORRECTED

DECLARATION OF DREW J. BUONI UNDER 37 CFR 1.132

Honorable Commissioner of
Patents and Trademarks
Box Non-Fee Amendment
Washington, D.C. 20231

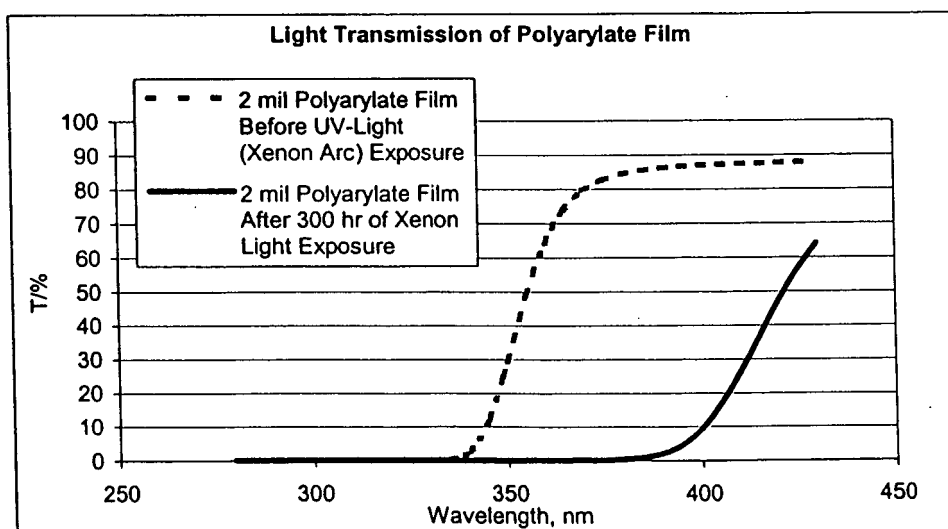
I, Drew J. Buoni, in support of the above-identified patent application, do declare and state as follows:

1. I received a Bachelor of Science degree from the University of Cincinnati in 1994. My major course of study was Chemical Engineering. I have been employed by Avery Dennison Corporation, the assignee of the above-identified patent application, and its predecessor-in-interest for over 6 years. My current job title is Business Director for Reflective Films. Previously, I served as the Technical Director for Reflective Films. During the course of my work at Avery Dennison, I have gained knowledge and experience in the field of the manufacture, use, and performance properties of polymer sheeting products, for a variety of different polymer materials and their additives, including fluorescent materials and fluorescent colorants.

2. I am a co-inventor of the above-identified patent application. The other two co-inventors, Dr. Guang-Xue Wei and Ms. Kimberly A. Dockus, worked under my supervision on the development of the sheeting products disclosed and claimed.

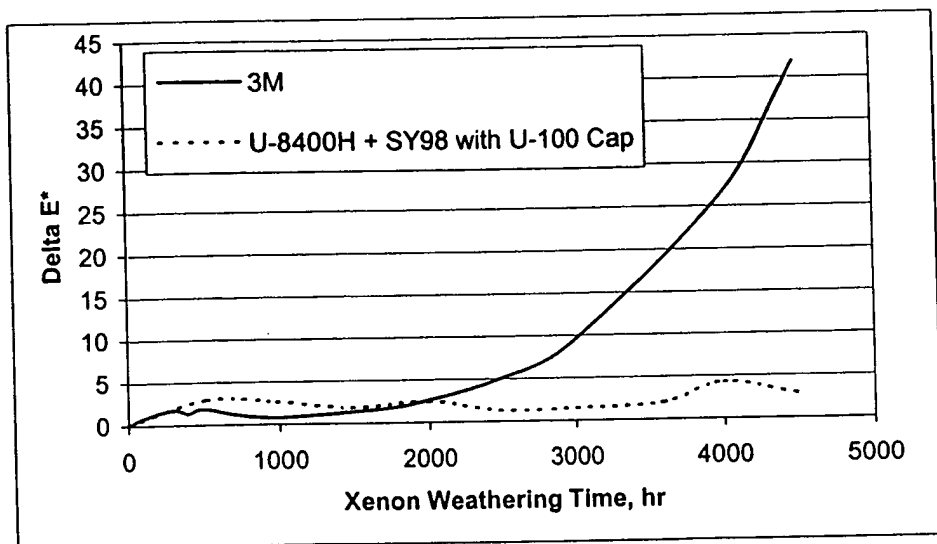
3. Fluorescent dyes are extremely photosensitive, and the behavior of different fluorescent colorants in different polymer matrices is inherently unpredictable. In particular, one cannot predict the color durability of different fluorescent colorants in different polymer matrices.

4. Polyarylate is a polymer that initially allows significant transmission of ultraviolet light. After exposure to ultraviolet light, the polyarylate polymer backbone undergoes photo-Fries rearrangement. The resulting structure still transmits visible light, but blocks a significant portion of ultraviolet light. The graph below illustrates the percent ultra violet light transmission of polyarylate before exposure to UV light, and after 300 hours of exposure to Xenon Arc UV light.



It may be seen that before exposure to UV light, the polyarylate allows nearly 90% transmission of UV light in about the 350-400 nm wavelength range. After 300 hours of xenon arc UV light exposure, the transmission of UV light through the polyarylate is in the range of about 0-10%.

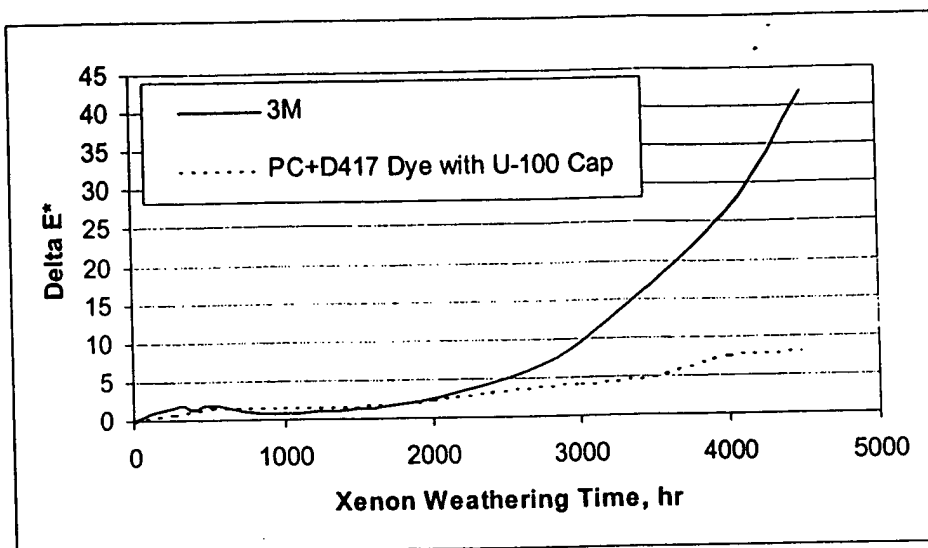
5. We compared the color durability of fluorescent sheeting materials made with the instant invention with another commercially available prior art fluorescent sheeting material. The prior art commercial sheeting material used was Minnesota Mining and Manufacturing Company's Scotchlite Diamond Grade Fluorescent VIP reflective prismatic sheeting, sold under the product designation 3983 Fluorescent Yellow-Green. In the product made in accordance with the instant invention, the color layer was a polyarylate/polyester blend with Solvent Yellow 98 fluorescent colorant (U-8400H + SY98), and the screening layer was polyarylate (U-100 Cap). The figure below illustrates the change in color, represented by ΔE^* , of the two products.



The graph shows that while the prior art 3M product began to undergo a noticeable color shift after about 2500 hours of xenon arc ultraviolet light exposure, the sheeting product of the instant invention still showed excellent fluorescent color durability after 4000 hours of xenon arc ultraviolet light exposure.

6. We also compared the color durability of the same prior art sample with another product made in accordance with the instant invention. In this case, in the product of the invention the color layer comprised a polycarbonate with Huron D-417 fluorescent colorant (PC + D417 dye), and the screening layer was polyarylate (U-100 Cap). Both samples were exposed to xenon arc ultraviolet light. The figure below illustrates the change in color, represented by ΔE^* , of the two products.

The graph shows that the product of the instant invention showed significantly improved color durability as compared to the prior art product.

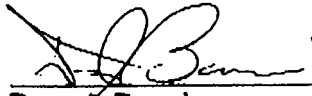


7. I have reviewed the prior art cited by the Examiner against the above-identified patent application. I note that the reference of Siclovan et al., WO 00/26275, discloses weatherable block copolyestercarbonates, and blends containing them. A specific goal of Siclovan is to prevent “photoyellowing” of the polymer materials. To my knowledge, there is no relationship between whether a polymer material will yellow when exposed to ultraviolet light, and whether that same polymer material will act as a UV screen layer for a fluorescent color layer. For example, acrylics are known for their excellent weatherability in terms of their resistance to photoyellowing. Yet acrylics are notoriously poor hosts for fluorescent colorants, as shown by the data in Example 3 and 4 of the Pavelka patent. The “weatherability” property described by Siclovan et al. is not the same thing as the protection of the color durability of a fluorescent color in an underlying layer. Because these are different properties, one skilled in the art would not have been led by the Siclovan disclosure to use the Siclovan polymer blends as screening layers over fluorescent colorants.

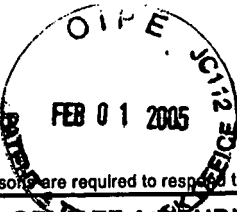
8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are

punishably by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: October 22, 2002


By: Drew J. Buoni

Oct 22, 02



CORRECTED

**TERMINAL DISCLAIMER TO OBTAIN A DOUBLE PATENTING
REJECTION OVER A PRIOR PATENT**

Docket Number (Optional)

013013-026157

In re Application of: **WEI, Guang-Xue et al.**Application No.: ~~09/710,560~~ 09/710,510

Filed: November 9, 2000

For: **Fluorescent Polymer Articles Fabricated From U.V. Light
Absorbing Polymer**

The owner, **Avery Dennison Corp.**, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 to 156 and 173, as presently shortened by any terminal disclaimer, of prior Patent No. 6,514,594B. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 to 156 and 173 of the prior patent, as presently shortened by any terminal disclaimer, in the event that it later: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of an organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record.

Sandra B. Weiss
Signature

2/20/03
Date

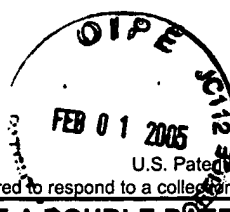
Sandra B. Weiss
Typed or printed name

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING
REJECTION OVER A PRIOR PATENT**

Docket Number (Optional)

AVERP2952US

In re Application of: Guang-Xue Wei

Application No.: 09/710,510

Filed: November 9, 2000

For: FLUORESCENT POLYMER ARTICLES FABRICATED FROM U.V. LIGHT
ABSORBING POLYMER Corp.

The owner*, Avery Dennison, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 and 173, as presently shortened by any terminal disclaimer, of prior Patent No. _____. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of the prior patent, as presently shortened by any terminal disclaimer, in the event that it later: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of an organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record.

Signature

Date

Thomas W. Adams

Typed or printed name

216-621-1113

Telephone Number

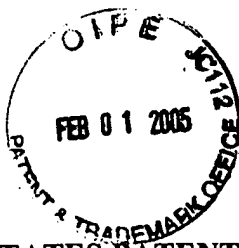
- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) ~~is not~~ has already been paid.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



013013-026-157

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

WEI, Guang-Xue et al.

Serial No.: 09/710,560

Filed: November 9, 2000

For: FLUORESCENT POLYMER
ARTICLES FABRICATED FROM U.V.
LIGHT ABSORBING POLYMER

Confirmation No.: 5131

Examiner: Duc Truong

Art Unit: 1711

COPY

I hereby certify that this correspondence is being deposited with the U. S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on Feb. 21, 2003.

Paulette Haseltine
PAULETTE HASELTINE

ORIGINALLY FILED
RESPONSE TO OFFICE ACTION

Honorable Commissioner of
Patents and Trademarks
Box Non-Fee Amendment
Washington, D.C. 20231

Dear Sir:

This is in response to the Office Action mailed December 4, 2002. In that action, the Examiner rejected pending claims 1-33 for obviousness-type double patenting in view of co-pending application no. 09/710,560, which has since issued as U.S. 6,514,594 B1. Specifically, the Examiner stated

"Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference between [the] two applications are the fluorescent dye and the polymeric resin matrix of the instant claims are not in the fluorescent polymeric layer and the ultraviolet screening layer, as in the claims of the reference."

The '594 patent relates to a structure wherein a U.V. light screening layer, comprising a polymer having in its backbone repeating units of a U.V. light absorbing moiety, or a moiety

capable of being transformed by Photo-Fries rearrangement into a U.V. light absorbing moiety, is disposed in operative screening relation to a layer containing a fluorescent colorant. By contrast, the instant invention relates to a structure comprising a polymeric resin matrix, the matrix comprising a polymer as described above and a fluorescent colorant. As discussed in the prosecution of the '594 patent, fluorescent colorants are extremely photosensitive, and the behavior of different fluorescent colorants in different polymer matrices is inherently unpredictable. In particular, one cannot predict the color durability of different fluorescent colorants in different polymer matrices (see, "Declaration of Drew J. Buoni Under 37 CFR 1.132," ¶ 3, submitted in connection with prior 09/710,560, a copy of which is submitted herewith for the Examiner's reference). As such, it could not have been predicted that the fluorescent colorants in the claimed polymer matrix would have had superior weatherability, as set forth in the examples at page 28-32 of the instant application.

The Examiner's reference to claims 26 and 27 of the instant application is respectfully not understood. Claim 26 describes an embodiment wherein microprismatic cube corners are on a surface of the claimed polymer matrix layer. Claim 27 describes an embodiment wherein microprismatic cube corners are on a surface of a second light transmissible layer. It would not have been obvious from these claims to have the fluorescent colorant in a layer separate from the layer containing the claimed polymer, as claimed in the reference. As to the showing of unexpected results, the Examiner is once again referred to the data in the examples at pages 28-32 of the instant specification.

Nevertheless, without agreeing with the grounds of the rejection, but merely to expedite the prosecution of this application, applicant submits herewith a Terminal Disclaimer to Obviate a Double Patenting Rejection Over a Prior Patent. Since the instant application and the


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application for U.S. 6,514,594 were filed on the same day, they will expire on the same day, and the filing of this Terminal Disclaimer will have no adverse effect on the actual term of any patent that will issue hereon.

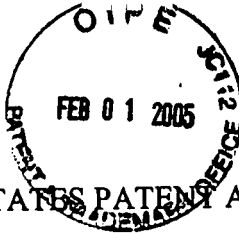
In view of the foregoing, a Notice of Allowance is respectfully requested.

Submitted herewith is a check in the amount of \$110.00 to cover the fee for filing the Terminal Disclaimer under 37 C.F.R. 1.20(d).

Respectfully submitted,


Sandra B. Weiss
Reg. No. 30,814
JONES DAY
77 West Wacker
Chicago, Illinois 60601-1692
312/782-3939

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

WEI ET AL.

Serial No.: 09/710,560

Filed: November 9, 2000

For: FLUORESCENT POLYMERIC
ARTICLES HAVING SCREENING
LAYER FORMED FROM U.V. LIGHT
ABSORBING POLYMER

Examiner: Duc Truong
Art Unit: 1711

I hereby certify that this correspond-
ence is being deposited with the U. S.
Postal Service as first class mail in an
envelope addressed to: Commissioner of
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D.C. 20231, on October 22, 2002
Paulette K. Haseltine
PAULETTE K. HASELTINE

DECLARATION OF DREW J. BUONI UNDER 37 CFR 1.132

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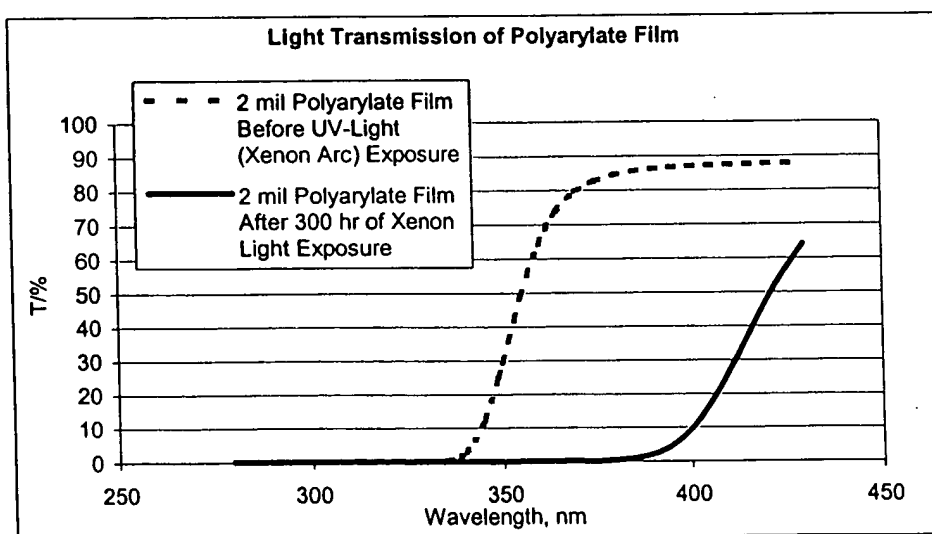
I, Drew J. Buoni, in support of the above-identified patent application, do declare and state
as follows:

1. I received a Bachelor of Science degree from the University of Cincinnati in 1994.
My major course of study was Chemical Engineering. I have been employed by Avery Dennison
Corporation, the assignee of the above-identified patent application, and its predecessor-in-interest
for over 6 years. My current job title is Business Director for Reflective Films. Previously, I
served as the Technical Director for Reflective Films. During the course of my work at Avery
Dennison, I have gained knowledge and experience in the field of the manufacture, use, and
performance properties of polymer sheeting products, for a variety of different polymer materials
and their additives, including fluorescent materials and fluorescent colorants.

2. I am a co-inventor of the above-identified patent application. The other two co-inventors, Dr. Guang-Xue Wei and Ms. Kimberly A. Dockus, worked under my supervision on the development of the sheeting products disclosed and claimed.

3. Fluorescent dyes are extremely photosensitive, and the behavior of different fluorescent colorants in different polymer matrices is inherently unpredictable. In particular, one cannot predict the color durability of different fluorescent colorants in different polymer matrices.

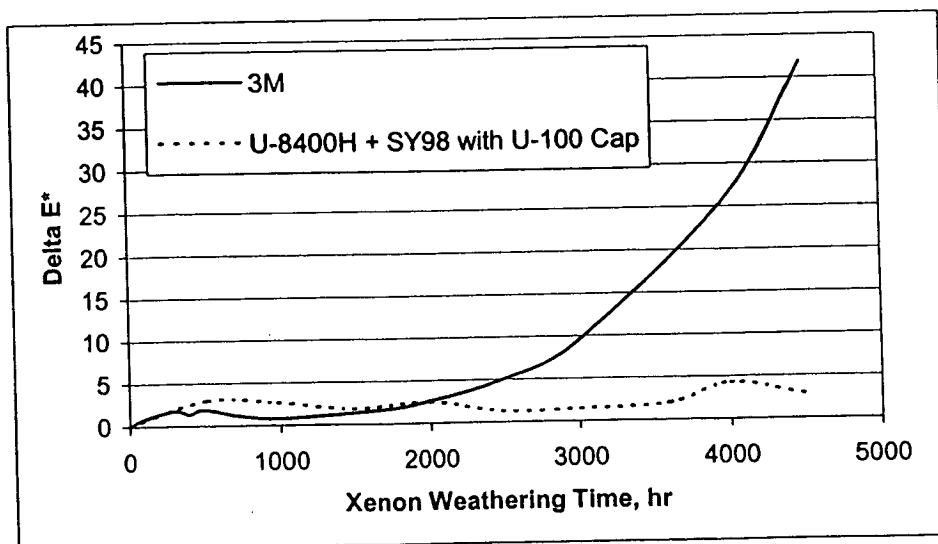
4. Polyarylate is a polymer that initially allows significant transmission of ultraviolet light. After exposure to ultraviolet light, the polyarylate polymer backbone undergoes photo-Fries rearrangement. The resulting structure still transmits visible light, but blocks a significant portion of ultraviolet light. The graph below illustrates the percent ultra violet light transmission of polyarylate before exposure to UV light, and after 300 hours of exposure to Xenon Arc UV light.



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It may be seen that before exposure to UV light, the polyarylate allows nearly 90% transmission of UV light in about the 350-400 nm wavelength range. After 300 hours of xenon arc UV light exposure, the transmission of UV light through the polyarylate is in the range of about 0-10%.

5. We compared the color durability of fluorescent sheeting materials made with the instant invention with another commercially available prior art fluorescent sheeting material. The prior art commercial sheeting material used was Minnesota Mining and Manufacturing Company's Scotchlite Diamond Grade Fluorescent VIP reflective prismatic sheeting, sold under the product designation 3983 Fluorescent Yellow-Green. In the product made in accordance with the instant invention, the color layer was a polyarylate/polyester blend with Solvent Yellow 98 fluorescent colorant (U-8400H + SY98), and the screening layer was polyarylate (U-100 Cap). The figure below illustrates the change in color, represented by ΔE^* , of the two products.



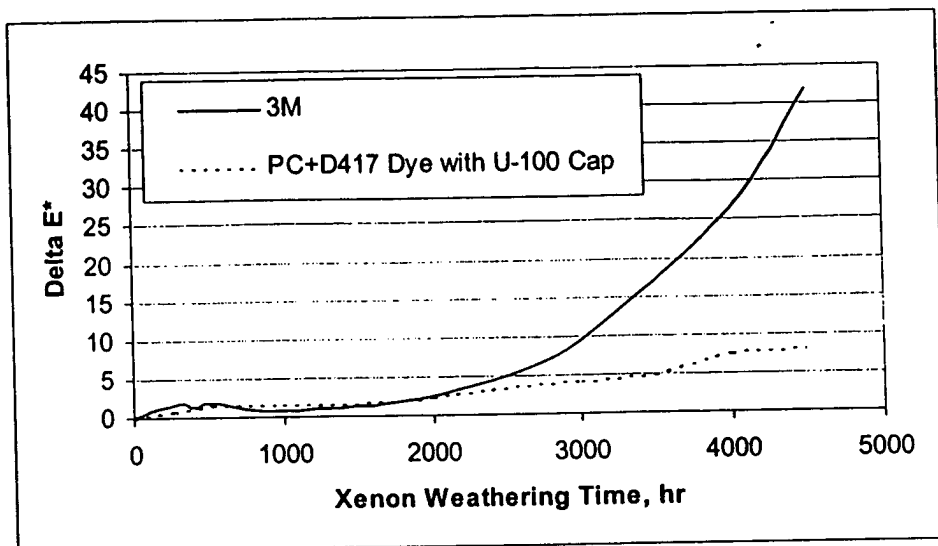
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The graph shows that while the prior art 3M product began to undergo a noticeable color shift after about 2500 hours of xenon arc ultraviolet light exposure, the sheeting product of the instant invention still showed excellent fluorescent color durability after 4000 hours of xenon arc ultraviolet light exposure.

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6. We also compared the color durability of the same prior art sample with another product made in accordance with the instant invention. In this case, in the product of the invention the color layer comprised a polycarbonate with Huron D-417 fluorescent colorant (PC + D417 dye), and the screening layer was polyarylate (U-100 Cap). Both samples were exposed to xenon arc ultraviolet light. The figure below illustrates the change in color, represented by ΔE^* , of the two products.

The graph shows that the product of the instant invention showed significantly improved color durability as compared to the prior art product.




COPY

7. I have reviewed the prior art cited by the Examiner against the above-identified patent application. I note that the reference of Siclovan et al., WO 00/26275, discloses weatherable block copolyestercarbonates, and blends containing them. A specific goal of Siclovan is to prevent “photoyellowing” of the polymer materials. To my knowledge, there is no relationship between whether a polymer material will yellow when exposed to ultraviolet light, and whether that same polymer material will act as a UV screen layer for a fluorescent color layer. For example, acrylics are known for their excellent weatherability in terms of their resistance to photoyellowing. Yet acrylics are notoriously poor hosts for fluorescent colorants, as shown by the data in Example 3 and 4 of the Pavelka patent. The “weatherability” property described by Siclovan et al. is not the same thing as the protection of the color durability of a fluorescent color in an underlying layer. Because these are different properties, one skilled in the art would not have been led by the Siclovan disclosure to use the Siclovan polymer blends as screening layers over fluorescent colorants.

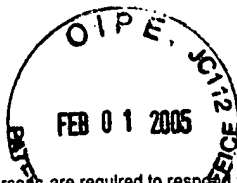
8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are

punishably by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: October 22, 2002

 Oct 22, 02
By: Drew J. Buoni

COPY

**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING
REJECTION OVER A PRIOR PATENT**

Docket Number (Optional)

013013-026157

In re Application of: WEI, Guang-Xue et al.

Application No.: 09/710,560

Filed: November 9, 2000

For: Fluorescent Polymer Articles Fabricated From U.V. Light
Absorbing Polymer

The owner, Avery Dennison Corp., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 to 156 and 173, as presently shortened by any terminal disclaimer, of prior Patent No. 6,514,594B. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 to 156 and 173 of the prior patent, as presently shortened by any terminal disclaimer, in the event that it later: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of an organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record.

Sandra B. Weiss 2/20/03
Signature Date

Sandra B. Weiss
Typed or printed name

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

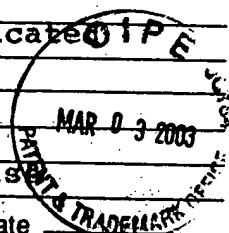
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Continuation/CIP/Divisional - (Circle One) Drawings _____ Sheets _____
☒ Response to Off. Act. dated 12/4/02 ☐ Fin. Rej.
☒ Other Copy of Dec. of Drew Buoni; ?Terminal
Disclaimer; \$110.00 check
☐ Assignment enclosed ☒ Cert. of Timely Mailing ☐ Express Mail

Identification of Application:

Serial No. 09/710,560
Title Fluorescent Polymer Articles Fabricated
From U.V. Light Absorbing Polymer
Wei et al.
Applicant Avery Dennison
Client 013013-026157
AWD File No. 2/21/03 Atty. Weiss
Mailed 2/21/03 Filed _____ Due Date _____



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